

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1439932

Luminaire Tested: S124DR-H865D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439932
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-563-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DR-H865D835-X4F0-XX-UDD-FLB-W
Description: DEFINE 4, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

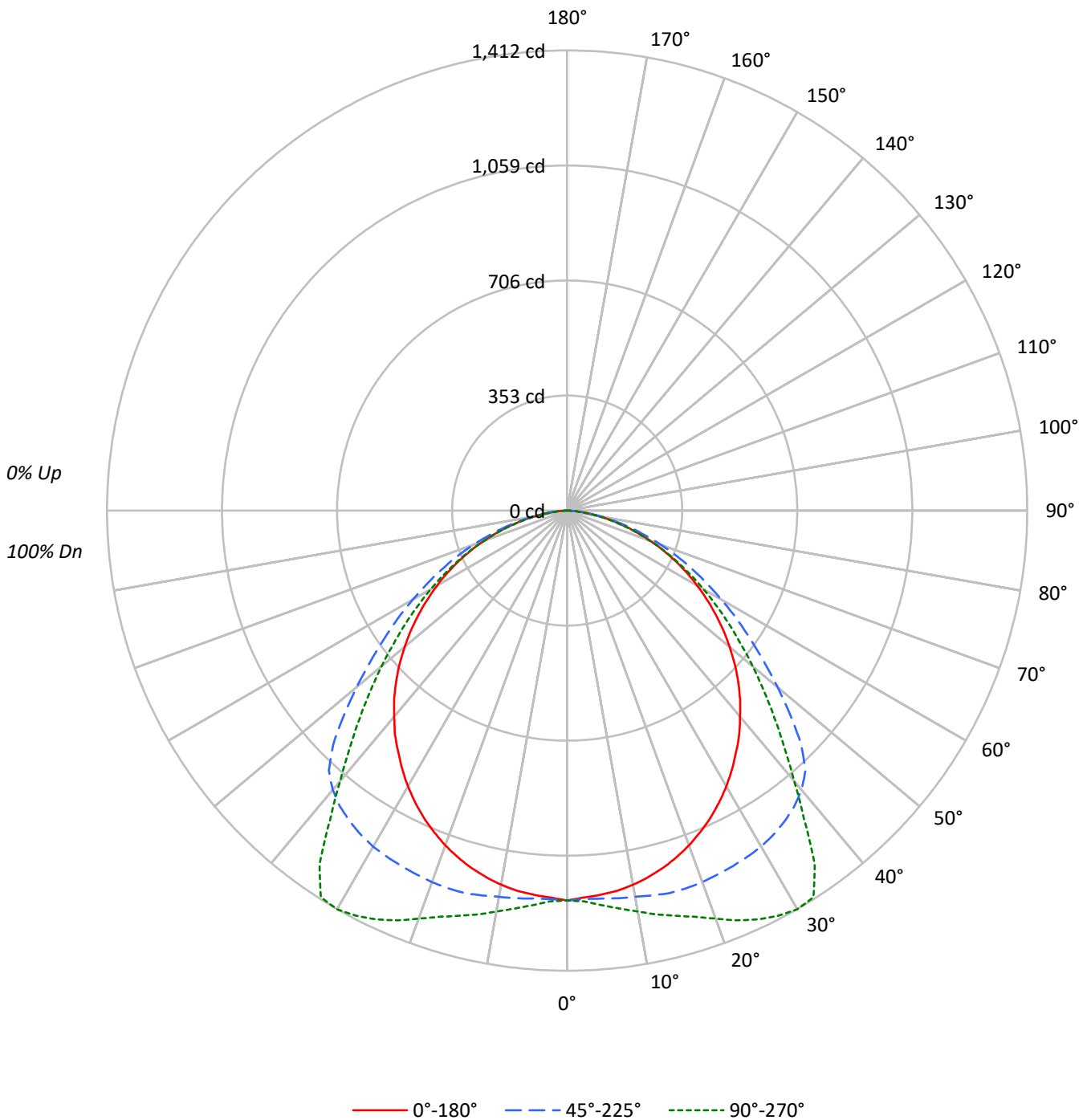
Lumens per Lamp: N/A
Luminaire Lumens: 3636.0 lumens
Efficiency: N/A
Efficacy: 117.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.53 / 1.51
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87					85				
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73					71				
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	67	63					60				
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54					52				
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	52	47					45				
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41					39				
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37					35				
8	61	48	39	34	60	47	39	33	46	38	33	44	38	33	43	37	33					31				
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30					28				
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27					25				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10578	10578	10578
5°	10504	10608	10785
10°	10467	10805	11216
15°	10393	11123	11778
20°	10285	11412	12538
25°	10149	11741	13504
30°	9973	12154	14420
35°	9758	12558	14295
40°	9526	12914	12508
45°	9278	12699	11246
50°	8947	11595	10223
55°	8578	10551	9338
60°	8159	9674	8553
65°	7663	8818	7812
70°	7011	7892	6980
75°	6176	6777	6057
80°	5081	5438	4903
85°	3571	3693	3337

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 12699 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.8	3.2
10°-20°	344.0	9.5
20°-30°	560.0	15.4
30°-40°	711.1	19.6
40°-50°	692.9	19.1
50°-60°	568.1	15.6
60°-70°	396.4	10.9
70°-80°	203.4	5.6
80°-90°	45.1	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1018.8	28.0
0°-40°	1730.0	47.6
0°-60°	2991.0	82.3
0°-90°	3636.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3636.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1184	1201	1195	1204	1215	112
15°	1135	1171	1215	1263	1287	320
25°	1040	1107	1204	1328	1384	479
35°	904	992	1164	1333	1324	566
45°	742	834	1016	931	899	572
55°	556	642	684	627	606	498
65°	366	419	422	388	373	363
75°	181	201	198	184	177	192
85°	35	36	36	34	33	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1196.4	1196.4	1196.4	1196.4	1196.4
2.5°	1188.2	1203.5	1192.9	1197.6	1199.9
5°	1183.5	1201.1	1195.2	1203.5	1215.2
7.5°	1176.5	1196.4	1199.9	1216.4	1231.6
10°	1165.9	1189.4	1203.5	1231.6	1249.3
12.5°	1151.8	1181.2	1209.3	1248.1	1269.2
15°	1135.4	1170.6	1215.2	1263.3	1286.8
17.5°	1115.4	1157.7	1215.2	1275.1	1306.8
20°	1093.1	1142.4	1212.9	1290.3	1332.6
22.5°	1067.3	1126.0	1208.2	1308.0	1360.8
25°	1040.3	1107.2	1203.5	1327.9	1384.3
27.5°	1009.7	1084.9	1197.6	1343.2	1401.9
30°	976.9	1057.9	1190.5	1350.2	1412.5
32.5°	941.6	1026.2	1178.8	1350.2	1406.6
35°	904.1	992.1	1163.5	1332.6	1324.4
37.5°	867.7	955.7	1144.8	1246.9	1195.2
40°	825.4	917.0	1118.9	1126.0	1083.7
42.5°	785.5	875.9	1082.5	1023.8	986.3
45°	742.0	833.6	1015.6	931.1	899.4
47.5°	697.4	787.8	928.7	847.7	818.4
50°	650.5	742.0	843.0	769.0	743.2
52.5°	604.7	692.7	760.8	696.2	671.6
55°	556.5	642.2	684.5	627.0	605.8
57.5°	508.4	590.6	615.2	562.4	542.4
60°	461.4	535.4	547.1	501.3	483.7
62.5°	414.5	477.9	482.6	442.6	427.4
65°	366.3	419.2	421.5	387.5	373.4
67.5°	319.4	362.8	362.8	333.4	321.7
70°	271.2	307.6	305.3	281.8	270.0
72.5°	225.4	251.3	248.9	231.3	223.1
75°	180.8	200.8	198.4	184.3	177.3
77.5°	138.5	152.6	150.3	140.9	135.0
80°	99.8	108.0	106.8	99.8	96.3
82.5°	65.8	70.4	68.1	63.4	61.1
85°	35.2	36.4	36.4	34.0	32.9
87.5°	12.9	12.9	12.9	12.9	11.7
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	19.88	21.48	20.24	21.79	22.11	19.66	21.26	20.03	21.58	21.89
	3H	21.38	22.82	21.76	23.15	23.51	21.13	22.57	21.51	22.90	23.26
	4H	21.89	23.24	22.28	23.59	23.96	21.63	22.98	22.03	23.33	23.71
	6H	22.21	23.46	22.62	23.82	24.21	21.95	23.20	22.36	23.56	23.96
	8H	22.29	23.48	22.71	23.87	24.27	22.02	23.22	22.45	23.61	24.01
	12H	22.33	23.47	22.76	23.85	24.28	22.06	23.20	22.49	23.58	24.01
4H	2H	20.50	21.85	20.90	22.20	22.58	20.33	21.69	20.73	22.03	22.41
	3H	22.23	23.36	22.64	23.76	24.16	22.00	23.13	22.41	23.52	23.92
	4H	22.86	23.88	23.29	24.29	24.73	22.60	23.61	23.03	24.03	24.46
	6H	23.29	24.17	23.74	24.61	25.07	23.01	23.89	23.46	24.34	24.79
	8H	23.40	24.23	23.86	24.67	25.14	23.11	23.94	23.57	24.38	24.85
	12H	23.46	24.21	23.94	24.68	25.15	23.17	23.91	23.65	24.39	24.86
8H	4H	23.10	23.93	23.56	24.37	24.84	22.87	23.70	23.33	24.14	24.61
	6H	23.62	24.31	24.12	24.80	25.28	23.37	24.05	23.86	24.54	25.02
	8H	23.79	24.40	24.30	24.91	25.40	23.52	24.13	24.03	24.64	25.13
	12H	23.90	24.44	24.41	24.93	25.50	23.62	24.16	24.12	24.65	25.21
12H	4H	23.11	23.85	23.59	24.33	24.80	22.89	23.63	23.37	24.10	24.57
	6H	23.65	24.26	24.16	24.77	25.26	23.40	24.02	23.91	24.52	25.01
	8H	23.86	24.40	24.36	24.89	25.45	23.59	24.14	24.10	24.63	25.19